DETAILED ACTION

1. This action is responsive to the application filed on 11/20/2007. Claims 1-55 represent Synchronizing state information between control units.

Reopening of Prosecution

In view of the attached Interview Summary, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, applicant must file a reply under 37 CFR 1.113

2. ***Objections***

Applicant has yet to respond to objected claim 55 from Office Action sent 08/22/2007. Claim 55 is objected because claim 55 is dependent upon itself. Appropriate correction is required. For the purposes of prosecution, Examiner will interpret claim 55 as being dependent from claim 54.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1- 59** are rejected under 35 U.S.C. 102(e) as being anticipated by Vasavada **(US Publication No. 2004/0078619 A1).**

As per claim 1, Vasavada teaches a method comprising managing state information within a primary control unit included within a device, wherein the state information comprises information (i) representing a current state of a consumer included within the device **()**, (ii) updated by the primary controller during operation of the consumer within the device **(Abstract and paragraph [0020], lines 9-12)**, and (iii) upon a transfer of control of the device from the primary control unit to a standby control unit included within the device, utilized by the standby control unit to take control of the device from the primary control unit without having to relearn the state information **(Abstract, paragraph [0009] and Figure 2, where the active and standby controllers are displayed)**; and prior to communicating the changes to the consumer of the state information included within the device, communicating to the standby control unit changes performed by the primary control unit to the state information to synchronization the state information between the primary and standby control units **(Abstract and paragraph [0020], lines 9-12)**.

As per claim 2, Vasavada teaches wherein communicating changes to the state information to a standby control unit comprises communicating changes to the state in accordance with an order that requires the changes to be communicated to the standby control unit prior to communicating the changes to the consumer of the state information **(Abstract)**.

As per claim 3, Vasavada teaches wherein managing state information comprises managing state information within a temporally-ordered data structure **(Figure 3)**, and wherein communicating changes to the standby control unit comprises replicating the temporally-ordered

data structure within the standby control unit **(Abstract, Figures 2 and 3 and paragraph [0030])**.

As per claim 4, Vasavada teaches wherein communicating changes comprises communicating changes to the state information to the consumers in accordance with the data structure **(paragraph [0022], Figure 4 and Figure 5)**.

As per claim 5, Vasavada teaches wherein managing state information comprises utilizing a commit proposal and a commit marker to identify a portion of the state information **(paragraph [0022])**.

As per claim 6, Vasavada teaches wherein utilizing a commit proposal and a commit marker comprises: setting the commit proposal to identify a most recent object of the temporally-ordered data structure that has been communicated to the consumer; and setting the commit marker to identify a most recent object of the temporally-ordered data structure that has been communicated to the consumer and for which an acknowledgement has been received from the consumer **(paragraph [0022] and Figure 4 and 5)**.

As per claim 7, Vasavada teaches further comprising setting a flag that indicates to the consumer that the commit proposal has been set **(paragraphs [0023] and [0026])**.

As per claim 8, Vasavada teaches further comprising resetting the commit marker to the object identified by the commit proposal in response to receiving the acknowledgement **(paragraphs [0023] and [0026]).**

As per claim 9, Vasavada teaches further comprising:
replicating the commit proposal and the commit marker to the standby control unit; and communicating a portion of the replicated temporally-ordered data structure that is bounded by

the replicated commit proposal and the replicated commit marker to the consumer from the standby control unit in the event the primary control unit fails **(paragraphs [0022] and [0023]).**

As per claim 10, Vasavada teaches, further comprising issuing a communication from the primary control unit to cause the standby control unit to set the replicated commit proposal to identify a most recent object of the replicated temporally-ordered data structure that has not been acknowledged by the consumer **(paragraph [0028])**.

As per claim 11, Vasavada teaches issuing a communication from the primary control unit to cause the standby control unit to set the replicated commit marker to identify a most recent object of the replicated temporally-ordered data structure that has been communicated to the consumer and for which an acknowledgement has been received from the consumer **(paragraphs [0022] and [0023])**.

As per claim 12, Vasavada teaches wherein issuing the communication to cause the standby control unit to set the replicated commit marker further causes the standby control unit to set the replicated commit marker to the object identified by the replicated commit proposal in response to receiving the acknowledgement **(paragraphs [0022] and [0023])**.

As per claim 13, Vasavada teaches wherein utilizing a commit marker and commit proposal further comprises deleting a least recent object of the temporally-ordered data structure that is not bounded by the commit marker and the commit proposal **(paragraphs [0022] and [0023])**.

As per claim 14, Vasavada teaches wherein managing state information comprises storing the state information within a set of objects **(paragraphs [0022] and [0024])**.

As per claim 15, Vasavada teaches receiving event messages indicating changes to the state information; and linking the objects of the data structure in accordance with an order in which the event messages are received to form a temporally-ordered data structure **(paragraph [0005] and [0024])**.

As per claim 16, claim 16 is substantially the same as claim 3 and thus rejected for the same. Furthermore regarding encoding a commit proposal and a commit marker within the temporally-ordered data structure to identify the portion of the state information communicated to the consumer **(paragraphs [0022] and [0023])**.

As per claim 17, Vasavada teaches wherein the data structure comprises a plurality of objects, and wherein maintaining state information comprises storing the state information within the objects (**paragraphs [0022] and [0023])**.

As per claims 18 and 19, claims 18 and 19 are substantially the same as 6 and 7 and thus are rejected using similar rationale.

As per claim 20, Vasavada teaches receiving an update request from the consumer; identifying a second portion of the temporally-ordered data structure that contains objects more recent than the object identified by the commit proposal; and communicating state data associated with the second portion of the temporally- ordered data structure to the consumer in response to the request (**paragraphs [0022] and [0026])**.

As per claim 21, Vasavada teaches further comprising updating the commit proposal to identify the most recent of the identified objects of the temporally-ordered data structure **(paragraphs [0022] and [0026])**.

As per claim 22, Vasavada teaches receiving an acknowledgement from the consumer; and updating the commit marker to identify the object identified by the commit proposal in response to the acknowledgement **(paragraph [0059],[0067], [0068] and [0066])**.

As per claim 23, Vasavada teaches further comprising communicating changes to the state information to a standby control unit before communicating the changes to the consumer **(Abstract and paragraph [0020])**.

As per claim 24, Vasavada teaches wherein communicating changes to the state information to a standby control unit comprises communicating changes to the state in accordance with an order that requires the changes to be communicated to the standby control unit **(Absract and** .

As per claim 25, Vasavada teaches receiving event messages indicating changes to the state information; and linking the objects of the data structure in accordance with an order in which the event messages are received **(paragraph [0023])**.

As per claims 26-41, claims 26-41 list substantially the same elements as claims 1-25 but in device form rather than method form. Therefore, the rejection to claims 1-25 applies equally as well to claim 26-41.

As per claim 42, Vasavada teaches a consumer; a memory to store state information; and a control unit to maintain the state information within a temporally-ordered data structure, wherein the control unit communicates a portion of the state information to the consumer, and encodes a commit proposal and a commit marker within the data structure to identify the portion of the state information within the temporally-ordered data structure **(paragraph [0023])**.

As per claims 43-50, claims 43-50 are list all the same elements as claims 1-25 and thus are rejected using similar rationale.

As per claims 51-55, claims 53-55 list all of the same elements of claims 1-13 but in computer readable medium form and thus are rejected using the same rationale as used in rejected the method of claims 1-13.

As per claim 56-59, Vasavada teaches a method wherein the device comprises a router, and wherein the consumer comprises a forwarding component **(paragraph [0006], where the multiplex router device includes a plurality of route calculation units. See also Figure 5- fowarding components)**.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMC

/William C. Vaughn, Jr./
Supervisory Patent Examiner, Art Unit 2144